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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/735,659	12/16/2003	Herve Le Floch	01807.002426	2846

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FITZPATRICK CELLA HARPER & SCINTO  
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NEW YORK, NY 10112

EXAMINER
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KIM, CHONG R

ART UNIT	PAPER NUMBER
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2624

MAIL DATE	DELIVERY MODE
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07/18/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/735,659	<b>Applicant(s)</b> LE FLOCH, HERVE	
	<b>Examiner</b> Charles Kim	<b>Art Unit</b> 2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,5,6,12,13,16,17,23,25 and 26 is/are rejected.
- 7) ☒ Claim(s) 3,4,7-11,14,15,18-22 and 24 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>12/16/03, 2/6/04</u> . | 6) <input type="checkbox"/> Other: ____.  |

## **DETAILED ACTION**

### ***Specification***

1. The specification is objected to because it is missing section headings.

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

### **Arrangement of the Specification**

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.
- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC.
- (f) BACKGROUND OF THE INVENTION.
  - (1) Field of the Invention.
  - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (g) BRIEF SUMMARY OF THE INVENTION.
- (h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (i) DETAILED DESCRIPTION OF THE INVENTION.
- (j) CLAIM OR CLAIMS (commencing on a separate sheet).
- (k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 6 and 17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Referring to claim 6, the phrase “with the coefficient” in line 2 renders the claim indefinite because it is unclear which coefficient, the watermarked coefficient or non-watermarked coefficient, is being claimed. For examination purposes, “the coefficient” is construed as the non-watermarked coefficient because claim 1 recites that the watermarked coefficient is determined according to the index, and therefore, it would be illogical for the index to be determined in accordance with the watermarked coefficient. A similar rejection is also applicable to claim 17. Appropriate corrections are required.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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3. Claims 1, 2, 6, 12, 13, 17, 23, 25, 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Le Floch, U.S. Patent Application Publication No. 2002/0013903 ("Floch") and Rhoads, U.S. Patent No. 5,862,260 ("Rhoads").

Referring to claim 1, Floch discloses a method of inserting a message in an image (figure 4), the message comprising symbols that are each referenced by an index (page 4, paragraphs 97-100. Note that the key K is construed as the index for the message symbol), comprising, for a coefficient of the image, the steps of:

a. determining a watermarked value of the coefficient, according to the value of a symbol of the message and according to the index of the symbol [page 4, paragraphs 97-104. Note that the value obtained by adding the pseudo-random sequence to the original image coefficient (paragraph 104) is construed as the watermarked value of the coefficient. Floch explains that the pseudo-random sequence is generated according to the index (key) (paragraph 101). Floch further explains that the index (key) is a function of variables C1 and C2 (paragraph 100), which are variables that represent the message M (paragraph 99). Thus, Floch's disclosure suggests that the watermarked value is determined according to the value of the message symbol M and the index (key) of the symbol.];

b. inserting the watermarked value in place of the value of the coefficient [page 4, paragraph 104. Note that by adding the pseudo-random sequence to the current region, the original coefficient value is replaced by the watermarked value (pseudo-random sequence plus the original coefficient) of the coefficient].

Floch does not explicitly disclose that the message comprises binary symbols. However, this feature was exceedingly well known in the art. For example, Rhoads discloses a message comprising binary symbols that is inserted in an image (col. 64, lines 59-64).

Floch and Rhoads are combinable because they are both concerned with digital image watermarking techniques. Rhoads explains that a variety of different types of data including binary symbols can be embedded in an image (col. 64, lines 59-64). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify Floch's message so that it comprises binary symbols, as taught by Rhoads. The reason for doing so would have been to enhance the flexibility of the watermarking system by providing the capability of embedding a variety of different types of data, including binary symbols. Therefore, it would have been obvious to combine Floch with Rhoads to obtain the invention as specified in claim 1.

Referring to claim 2, Floch further discloses that the watermarked value is selected from a range of values determined around the value of the coefficient according to a psycho-visual model (page 4, paragraph 103).

Referring to claim 6 as best understood, Floch further discloses that the index of the symbol is automatically determined in accordance with the coefficient (page 4, paragraphs 97-100). Floch explains that each symbol  $M_i$  is associated with at least one region of image coefficients (paragraph 97). Additionally, the variables  $C1$  and  $C2$  are determined according to the message  $M$  (paragraph 99), while the index (key) is a function of variables  $C1$  and  $C2$  (paragraph 100). Therefore, the index (key) is automatically determined in accordance with the image coefficient].

Referring to claim 12, see the rejection of at least claim 1 above. Floch further discloses a device (figure 3) for performing the method recited in claim 1 (paragraphs 85-86). The Examiner notes that the device in figure 3 of Floch is the same as figure 1 of Applicant's specification, which illustrates "a device implementing the invention." (Specification, page 6). Therefore, Floch discloses a device with structures corresponding to the means recited in claim 12.

Referring to claim 13, see the rejection of at least claim 2 above.

Referring to claim 17, see the rejection of at least claim 6 above.

Referring to claim 23, Floch further discloses that the determination and insertion means are incorporated in a microprocessor (100), a read only memory (102) containing a program for processing the data, and a random access memory (103) containing registers adapted to record variables modified during the execution of the program (paragraph 89 and figure 3).

Referring to claim 25, see the rejection of at least claim 1 above. Floch further discloses an apparatus (figure 3) for processing a digital image, comprising means adapted to implement the method according to claim 1 (paragraphs 85-86). The Examiner notes that the apparatus in figure 3 of Floch is the same as figure 1 of Applicant's specification, which illustrates "a device implementing the invention." (Specification, page 6). Therefore, Floch discloses an apparatus with structures corresponding to the means recited in claim 25.

Referring to claim 26, see the rejection of at least claim 12 above. Floch further disclose an apparatus (figure 3) for processing a digital image, comprising the device according to claim 12 (paragraphs 85-86).

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4. Claims 5 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Le Floch, U.S. Patent Application Publication No. 2002/0013903 ("Floch") and Rhoads, U.S. Patent No. 5,862,260 ("Rhoads"), further in view of Alattar et al., U.S. Patent No. 7,020,304 ("Alattar").

Referring to claim 5, Floch explains that the image may be transformed in step E1 from spatial coefficients to "other coefficients" such as WT coefficients (page 3, paragraph 95). However, Floch clearly points out that this step is optional (*Id.*). By not performing this step, Floch's disclosure would have suggested to one of ordinary skill to carry out the insertion of the message symbols on the luminance pixel values of the image.]. Nonetheless, the Examiner would like to point out that this feature was exceedingly well known in the art. For example, Alattar discloses the step of carrying out the insertion of binary symbols on the value of the luminance of pixels of an image (col. 18, lines 7-13).

Floch, Rhoads, and Alattar are combinable because all are concerned with digital image watermarking techniques. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify Floch and Rhoads so that the insertion of the binary symbols are carried out on the luminance pixel values of the image, as taught by Alattar. The reason for doing so would have been to enhance the robustness of the watermark (Alattar, col. 18, lines 4-7). Therefore, it would have been obvious to combine Floch and Rhoads with Alattar to obtain the invention as specified in claim 5.

Referring to claim 16, see the rejection of at least claim 5 above.



*Allowable Subject Matter*


5. Claims 3, 4, 7-11, 14-15, 18-22, 24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

*Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles Kim whose telephone number is 571-272-7421. The examiner can normally be reached on Mon thru Thurs 8:30am to 6pm and alternating Fri 9:30am to 6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on 571-272-7453. The fax phone number for the organization where this application or proceeding is assigned is 571-272-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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